REMARKS

In the Office Action, Claims 1, 5-7, 9 and 11-19 are pending, were examined, and stand rejected. In response, Claims 1, 6, 9, 11, 13, 15, 16, 17, and 19 are amended, no claims are cancelled, and no claims are added. Applicants respectfully request reconsideration of pending Claims 1, 5-7, 9 and 11-19 in view of at least the following remarks.

I. Objection to the Specification and Claims

Claims 15 and 16 are objected to because the specification fails to provide proper antecedent basis for the claimed subject matter, specifically failing to define the term "computer readable medium." In response, Claims 15 and 16 are amended to recite a "computer recordable type medium." Accordingly, withdrawal of the objection is respectfully requested.

Claims 9 and 19 are objected to due to informalities, namely a redundant limitation. In response, Claims 9 and 19 are amended as suggested by the Examiner. Accordingly, withdrawal of the objection is respectfully requested.

II. Claim Rejections Under 35 U.S.C. §101

Claims 15 and 16 are rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter. In response, Claims 15 and 16 are amended as suggested by the Examiner. Accordingly, withdrawal of the rejection is respectfully requested.

II. Claim Rejections Under 35 U.S.C. §102

Claims 1, 5-7, 9 and 11-19 are rejected under 35 U.S.C. §102(e) as being anticipated by Lee et al., U.S. Patent 6,996,677 (herein after referred to as "Lee"). Applicants respectfully traverse this rejection.

Claim 1 recites:

> 1. A method, comprising:
> encountering a function call instruction that calls a called function during program execution;
> saving a return address in a first stack memory and in a second stack memory at the same time, the return address containing an instruction to be executed after execution of the called function, wherein the second stack memory stores a return address for each function call instruction that calls a called function during program execution;
> executing the called function;
> determining if the return address stored in the first stack memory matches the return address stored in the second stack memory to provide protection from a buffer overflow attack;
> executing exception handling code if an exception is generated when the return addresses do not match,
> wherein the exception handling code determines what value to pass to a program pointer based on the return address retrieved from each of the first and second stack memories. (Emphasis added.)

Lee is generally directed to a method for protecting memory stacks. As disclosed by Lee, upon execution of a jump to a subroutine, a return address is stored in a first location in a stack memory while a second location, separate from the stack memory, is used to store the address of the first location and a third location, separate from the stack memory, is used to store the return address itself. (See Abstract.) As disclosed by Lee, failure to detect a match between the address stored in the second location and the first location of the stack memory, or the failure to detect a match between the return address stored in the third location and the return address stored in the first location results in interrupt generation. (See Abstract.)

Lee does not disclose or suggest saving a return address in a first stack memory and in a second stack memory at the same time, wherein the second stack memory stores the return address for each function call instruction that calls a called function during program execution. Although Lee discloses the storage of a return address in a first location in the stack memory, Lee does not disclose or suggest storing the return address in a first stack memory and a second stack memory at the same time, as in Claim 1.

In contrast with Claim 1, second and third locations, are separate from the stack memory. (See Abstract.) Hence, Lee does not disclose or suggest the storing of the return address in the first and second stack memories at the same time, where the second stack

memory stores a return address for each function call instruction that calls a called function during program execution, as in Claim 1. The Examiner relies on registers 110a-100n of Lee to disclose the second stack memory of Claim 1. However, as explicitly defined by Lee:

> Registers 110 and 114 are hardware registers that may be implemented as latches, flip-flops or other similar devices within the processing element. In contrast, the external memory, which contains a stack 118, comprises static or dynamic random access memory that does not reside within the processing element. (Col. 3, lines 48-43.

In fact, Lee defines stack memory as:

> The stack is typically either a static random access memory (SRAM) or a dynamic random access memory (DRAM) that normally resides external to a processing element using it. (Col. 1, line 52-54)

We define a stack memory as an area of memory that is dynamically assigned to a program by the OS, and comprises a number of continguous memory locations to which data/variable required by the program may be written. (See page 1, ¶ [0003]) Hence, it is improper for the Examiner to rely on registers 110a-110n of Lee since registers are not an area of memory that is dynamically assigned to a program by the OS.

Furthermore, Lee does not disclose or suggest executing an exception handling code when the return addresses do not match, wherein the exception handling code determines what value to pass a program pointer based on the return address retrieved from each of the first and second stack memories, as in Claim 1. Therefore, the Examiner has not identified, and applicants are unable to discern any portion of Lee or the references of record which disclose or suggest saving a return address in a first stack memory and in a second stack memory at the same time, wherein the second stack memory stores a return address for each function call that calls a called function during program execution, much less wherein the exception handling routine determines what value to pass to a program pointer based on the return address retrieved from each of the first and second stack memories, as in Claim 1.

For each of the above reasons, therefore, Claim 1 and all claims which depend on Claim 1 are patentable over the cited art. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the §102(e) rejection of Claims 1 and 5.

Each of Applicants' other independent claims includes limitations similar to those highlighted in Claim 1, as discussed above. Therefore, all of Applicants' other independent claims, and all claims which depend on them, are patentable over the cited art for similar reasons. Consequently, Applicants respectfully request that the Examiner reconsider and withdraw the §102(e) rejection of Claims 6-20.

DEPENDENT CLAIMS

In view of the above remarks, a specific discussion of the dependent claims is considered to be unnecessary. Therefore, Applicant's silence regarding any dependent claim is not to be interpreted as agreement with, or acquiescence to, the rejection of such claim or as waiving any argument regarding that claim.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending (1) are in proper form, (2) are neither obvious nor anticipated by the relied upon art of record, and (3) are in condition for allowance. A Notice of Allowance is earnestly solicited at the earliest possible date. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (310) 207-3800.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17, particularly, extension of time fees.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR, & ZAFMAN LLP

Dated: December 30, 2008

By: _____
Joseph Lutz, Reg. No. 43,765

1279 Oakmead Parkway
Sunnyvale, California 94085-4040
Telephone (310) 207-3800
Facsimile (408) 720-8383

CERTIFICATE OF TRANSMISSION
I hereby certify that this correspondence is being submitted electronically via EFS Web on the date shown below to the United States Patent and Trademark Office.

_____
Alexandra Y. Caluen December 30, 2008